IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicants: HEDMAN et al. | Art Unit: 3643 |
| Serial No.: 10/014,727 | |
| Filed: December 10, 2001 | Examiner: Kurt C. Rowan |
| Title: METHOD OF KILLING ORGANISMS AND REMOVAL OF TOXINS IN ENCLOSURES | |

DECLARATION OF LARRY CHASE UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1. I, the undersigned, am the Vice President, Sales and Marketing, of Precision Environmental, Inc. I have over 30 years experience in the management of all aspects of buildings and properties including construction, maintenance, remodeling, energy, and environmental remediation. I was the Director of Properties for Bullock's Departments Stores for 15 years. I also have over 20 years experience managing environmental projects including the development of specifications for environmental remediation projects. I am familiar with most methods that use engineering processes for the purpose of environmental remediation. I earned both my Master's and Bachelor's degrees from the University of Northern Iowa.

2. This declaration is submitted in response to the Examiner's rejection of claims 18-23, 26-30, 36-40, and 42-43 under 35 U.S.C. § 103(a) as obvious in view of Forbes and Montellano in the Office Action mailed February 7, 2006. I believe that the obviousness of the claims is rebutted by the outstanding commercial success of the invention defined by the claims and the recognition of the invention's value and praise by others.

3. TPE Associates presently licenses and trains pest extermination and environmental services companies in the process of Thermal Pest Eradication (TPE) under the name ThermaPureHeat™ that is described in the patent application. Precision Environmental uses the TPE process. As will be further described below, the TPE process uses heat to destroy active mold growth sites and kill viable mold spores, bacteria, viruses, insects, and other heat-sensitive pests and organisms and then filters the heated circulating air. The heating process uses convective currents to deliver the heat to all surfaces as this is a critical element of efficacy. The convective currents cause a mechanical action in the space that increases the amount of aerosol created. This is unique to the process and results in significant bulk removal or actual remediation through aerosol capture. TPE is an engineered process that includes filtering the air to remove fine particulate matter as an integral part of the eradication process. This has lead to considerable commercial success and praise by others and, thus, the TPE process is not obvious.

4. The TPE process described by the patent application has rewarded our company with commercial success. In light of my experience in the environmental industry, I believe this level of growth and commercial success is unusual for this type of company. In my view, if the solution was obvious, then someone else would have brought the solution to the market to gain the commercial success. The commercial success of the process relates the combination of the heated eradication and air filtration, which specifically and uniquely solves the problem of airborne contaminants, and is cost-effective, yielding better results and higher success rates. The process has been named "Best New Product" by the National Society of Professional Engineers. The commercial success of the invention is further evidenced by the large number of licensees and customers who have successfully used the process described in the patent application. Additionally, publications have made convincing comments about the commercial

success of TPE. By any measure, the ThermaPureHeat™ process has been a tremendous commercial success.

5. The first evidence of the invention's remarkable success is the large number of licensees who use our technology. Currently, at least 37 Pest Control Service Providers and 17 Environmental Services Providers use our ThermaPureHeat™ process. Companies utilizing ThermaPureHeat™ have completed more than 20,000 indoor contamination projects, including numerous federal, state and local government sites. In addition, this process have been deployed for the National Park Service and the Department of Defense. I list some clients of the ThermaPureHeat™ process and the type of projects below:

    a. California State University, Cal Maritime Academy: Structural Drying and Mold Management

    b. National Park Service, Yosemite National Park: Hantavirus Disinfection and Rodent Exclusion

    c. Regional Residential Real Estate Developer, Bakersfield, CA: Formaldehyde Remediation and Bake-Out

    d. Monterey County, Juvenile Hall, Salinas, CA: Mold Remediation and Management In-Place

    e. Maguire Residential Unit, Off Campus Student Housing: Mold Remediation and Heat Treatment

    f. TLC Home Hospice Care Center Corporate Offices, Moorpark, CA: Mold Remediation and Management In-Place

    g. Dade County School District, Florida

    h. Mormon Church, Toronto and Florida

i. United Campus Housing, Santa Barbara, CA: Mold Remediation and Management In-Place

6. One article describing the success of the invention's combination of heat remediation with air filtration is "Turning Up the Heat to Differential and Compete" A Case in Point™: Alliance Environmental. This paper (Exhibit A) describes Alliance Environmental, a leading full-service environmental firm located in California. The company's services include asbestos removal and mold demolition. The article describes the company's success when it shifted its approach to mold removal from the traditional one where affected areas were torn out to ensure all mold was removed to our ThermaPureHeat™ process. The company faced multiple problems with traditional eradication including high cost (around $20,000-$50,000 for a bathroom or kitchen mold removal). After licensing the ThermaPureHeat™ technology, Alliance Environmental realized substantial profit increases. Referring to the company's San Diego practice, Tim Tilley, vice president for Alliance Environmental in San Diego stated that "In 2005 alone, we saw a 21% increase in profits solely from the ThermaPureHeat™ clients." The company has helped nearly 500 customers with ThermaPureHeat™ and has seen a 10% to 15% jump in profits company-wide since licensing the technology. The article describes the invention's cost effectiveness and high success rate (90%). In my opinion, this paper demonstrates the non-obviousness of the invention due to the commercial success realized by one of our licensees by adding the technology to the company's services.

7. An article by Alan Forbess "Heat Treatment Method Provides Water Damage/ Mold Relief," Claims May 2006 (Exhibit B) states that ThermaPureHeat™ is a "revolutionary new heat-treatment process" that provides an alternative methodology to treat water damage and could save billions of dollars. Forbess describes the process as being "proven to be an effective alternative to traditional demolition-based remediation and building dry-out methods." The paper

compares the process of using heat to destroy organisms coupled with air filtration and the standard mold remedy. Most relevant are the case studies at the end of the paper describing the effectiveness and cost savings of using the TPE process. First, the paper discusses a water loss incident in office space at a Juvenile Hall in Monterey Country, California. The cost of gross removal was estimated at $20,000. The county instead chose to manage the mold in place using ThermaPureHeat™ and saved $17,000. The mold remediation process included HEPA vacuuming. Samples taken after the process revealed no detectible viable mold/fungi in the wall cavity and levels in the occupied space were lower than adjacent non-affected spaces and outdoor comparisons. Not only did using the process save the county money, but business disruption was minimized because the process took much less time than required for other remediation treatments that typically require multiple day move-outs. The second case study was regarding a student housing complex with both moisture and termite problems. Budget constraints and an accelerated restoration schedule, due to a booked summer occupancy schedule, added to the problem. All treated units passed post-remediation testing and the paper states that "ThermaPure™ effectively killed the mold in inaccessible areas, allowing minimal removal and replacement." Total savings were estimated at $4 million compared to traditional remediation, which also would have forced closure of the facilities for the summer. This paper shows the non-obviousness of the invention because it describes the invention's commercial success, especially in terms of cost savings.

8. Another example of the success of the invention is a project we completed on a multiplex theatre in Phoenix, AZ, that had a sewage backup occur with bacteria contaminating five of seven theaters just six days prior to the opening of the blockbuster movie Star Wars: Episode III. The original recommendation by the consultant was to remove and replace all contaminated materials. This wasn't possible in six days. ThermaPureHeat™ was brought in to limit the removal and

replacement requirement. According to Steve Vyrsotek of C & E Services, the ThermaPureHeat licensee performing the process, "With the ThermaPureHeat™ Process and limited remove and replace remediation, we were able to treat and deodorize the contaminated areas to better than normal background levels within four days. The theatre opened without incident, with the process having salvaged a $2 million weekend by the theatre's account."

9. Michael Geyer, P.E., C.I.H., C.S.P., President of Kerntec Industries, a California based environmental consulting firm stated, "Had the heat treatment (ThermaPureHeat™) been widely used in New Orleans and other hurricane ravaged areas, buildings with minor to moderate water damage could have been rapidly rehabilitated for far less than typical remove and replace remediation. It can be used to salvage moisture-damaged contents instead of disposal and can help preserve historical properties in lieu of destructive removal."

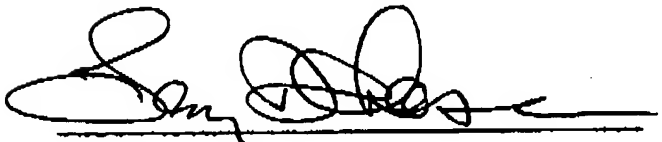
10. Based upon this feedback, it is my opinion that the commercial success of the ThermaPureHeat™ services is a direct result of the characteristics of the invention, specifically the ability of the process to eradicate and mechanically capture contaminants in a cost-effective, safe, nontoxic, efficient manner. The TPE process has achieved commercial success and therefore, if it were obvious then someone else would have previously brought it to market. The commercial success relates to the combination of heat eradiation and air filtration and therefore arises from the benefits of the invention and not from other factors.

11. Similarly, praise by others provides evidence of nonobviousness. The large number of licensees of the ThermaPureHeat™ service described above is a direct type of praise.

12. Also showing praise for the invention is the article by Alan Forbess "Heat Treatment Method Provides Water Damage/Mold Relief," Claims May 2006 (Exhibit B) states that ThermaPureHeat™ is a "revolutionary new heat treatment process" that provides an alternative methodology to treat water damage and could save billions of dollars. Forbess describes the process as being "proven to be an effective alternative to traditional demolition-based remediation and building dry-out methods." The paper explains that ThermaPureHeat™ accelerates the off-gassing of odors and toxins. The case studies described in the paper also show the effectiveness.

13. In light of the immediate and widespread acceptance of the ThermaPureHeat™ process by pest and environmental services providers across the country, the commercial success of these services, and the recognition by others of the value of the invention, I believe that the patent application is not obvious in view of the prior art cited in the Office Action dated February 7, 2006.

14. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Larry Chase

6/7/06

Date

April 2006

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# CLEANING SPECIALIST

For Today's Floor Care and Restoration Professional




A bnp PUBLICATION

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by Jim Holland

# Turning Up the Heat

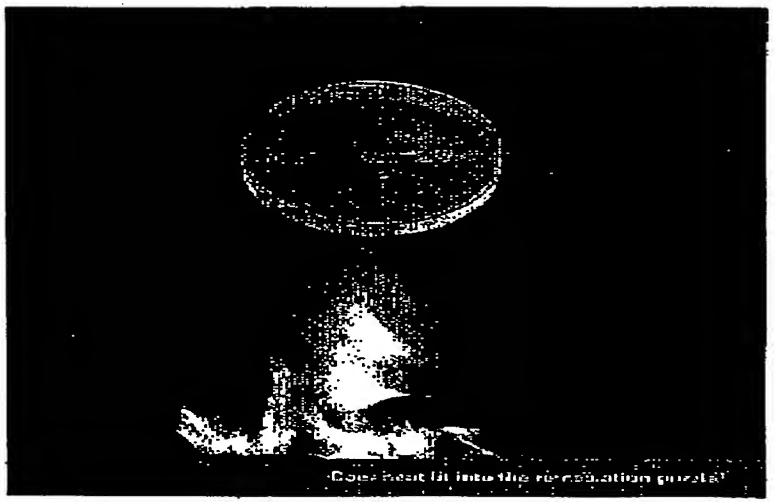
**Q: I've been reading about using heat for remediation in a crawlspace. What kind of results can we get from this process?**

A. First of all, I personally believe that heat is an effective method of solving bacterial problems in buildings. However, it is important to clarify what we mean by remediation. Both mold and sewage damage cleanup fall into this category. Let's begin with hot air drying in general and then discuss sewage (bacteria) and mold.

Currently there are several franchise and licensing companies that offer hot air for drying and pest control. There are also indirect fired heat exchangers that can be used for this purpose. Outdoor air is processed through the equipment where it is heated. The hot air is forced into the indoor environment or crawlspace to promote evaporation and then exhausted back to the outdoor environment. It is a process of ventilation, not dehumidification.

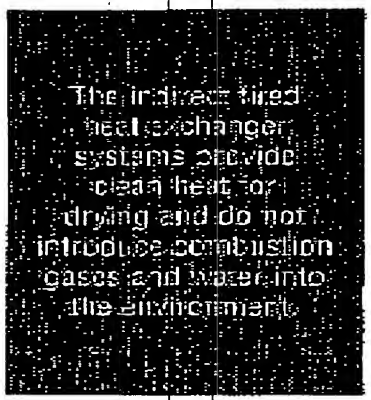
The indirect fired heat exchanger systems provide clean heat for drying and do not introduce combustion gases and water into the environment. The internal temperature of the heated indoor environment can range from 120 degrees to 160 degrees. Of course, in any instance where heat is used within a structure, fire safety and prevention must be considered. Also, temperatures above 160 degrees (and sometimes lower) may cause damage to certain building components or contents, so monitoring and an understanding of how building components react to heat is essential. The units are generally placed outside the building, with duct work attached to the clean air exhaust. Locating equipment outside the building may result in safety and security issues. There are other units on the market that are custom built for this purpose that have design variations.

An advantage of using heat for sewage remediation in crawlspaces is the ability for heat to assist in drying the crawlspace. The elevated temperature of the air makes it "thirsty," so it has the ability to hold more moisture. This is only an advantage if the moisture-laden air is exhausted to the out-



side. If the air isn't exhausted, but is allowed to re-circulate, the moisture may condense on cooler surfaces causing additional damage.

For years we have utilized a chart in our training classes that is derived from a study that was performed by the World Bank in 1980. It shows, among other things, that sewage-relat-




ed organisms will naturally bio-deteriorate in six to 12 months if left in the soil. It also indicated that by heating the environment that sewage-related organisms (bacteria included) would die in a matter of hours.

Other options for remediating sewage in soil include soil removal and replacement, or covering the soil with a mat or polyethylene (in some cases in conjunction with depressurization using a gas mat system connected to an exhaust fan). Other options, such as using biocides or lye/lime, create other problems and have not been found to be practical or effective solutions. But soil removal is labor intensive, and bio-remediation takes considerable time to be effective. Heat, on the other hand, can speed up the process and reduce costs.

There are several issues to consider when using heat in a crawlspace. You need to ensure that the pressure differential between the crawlspace and the living area remains negative relative to the crawlspace. Studies have shown that air infiltration from crawlspaces into a structure is common. If you force air into the crawlspace, it will add pressure and increase the infiltration. That is why maintaining negative pressure in the crawlspace while drying or remediating using heat is important.

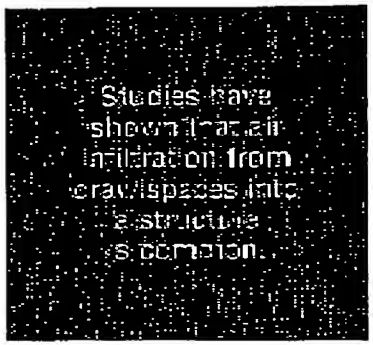
Another consideration is the depth to which the sewage has penetrated the soil. The deeper the penetration, the longer the heat is needed to raise the temperature of the soil. What is likely to occur, in most situations, is the pathogens in the top layer of soil are killed, but may remain active in cooler depths of the soil. It is also

important to remember that even though elevated temperatures kill pathogens, the organic material remains and may still result in major odor problems over time.

The use of heat has been proposed to assist in the process of mold remediation. At this time, the research does not fully support the use of heat as a complete remediation option. Our company has conducted some preliminary research into the possible effectiveness of heat on actual mold growth. This was a preliminary study, designed to explore the ability of heat to kill mold spores and hyphae after water damage in buildings.

The study was conducted by collecting dry and wet culture swabs from previously identified mold growth of *Penicillium* and *Aspergillus*. The swabs were placed in clean sealed containers that would contain the organisms, but allow the heat to penetrate. Identical controls samples were also prepared. The controls were maintained at room temperature. The dry and wet mold samples were placed in a heated shed type building that was kept at a temperature around 160 degrees. Half of the treated samples were exposed for a period of approximately one hour. The other samples were exposed to the heat for eight hours. The results demonstrated no apparent reduction in the levels of fungal growth between the controls and the "dry" spores that were cultured after exposure to heat for either of the two treatment periods.

The "wet" spore control culture demonstrated growth consistent with that found in the "dry" spore cultures. The "wet" spore heated culture demonstrated no growth for either of the exposure times. The significance of this result is not clear since the cultures were not processed promptly after collection due to communication and shipping problems. The control samples were handled identically with the treated samples with the exception that the controls were never exposed to temperatures over room temperature. An explanation for the absence of growth from the short term and long term exposure to heat for wet samples would also require additional investigation. These same kinds of results were also observed when similar mold cultures were exposed to heat in an oven operating at approximately 170 degrees for 24 hours — there was not a significant reduction in the viability of the dry spores.




Even if heat were able to kill mold spores, it probably would still not be an acceptable technique for treating mold in crawlspace since the "dead organisms" are still problematic. The EPA in its publication "Mold Remediation in Schools and Commercial Buildings" states: "The purpose of mold remediation is to remove the mold to prevent human exposure and damage to building materials and furnishings. It is necessary to clean up mold contamination, not just to kill the mold. Dead mold is still allergenic and some dead molds are potentially toxic."

According to a recent position paper published by the "Journal of Allergy and Clinical Immunology" (Volume 117, number 2, pgs 326-333): "Allergic responses to inhaled mold antigens are a recognized factor in lower airway disease (i.e., asthma)." The position paper also states hypersensitivity pneumonitis "is an uncommon but important disease that can occur as a result of mold exposure." Both of these conditions can result from dead spores.

At present, the mechanism that causes toxicosis and the concern over inhaled mycotoxins produced by molds remains unclear. However, it has been shown that certain mycotoxins, such as satratoxin produced by *Stachybotrys*, can penetrate the skin and cause an adverse reaction. Ingestion has resulted in serious toxicity in the food industry. For this reason the food industry has significantly researched techniques to destroy mycotoxins or rendering them harmless. In "Food Safety: Foodborne Illness" it is stated that "these substances [mycotoxins] are not protein and are not destroyed by heat. The best methods of control for mycotoxins are to prevent contamination and to prevent the growth of mold." The International Crops Research Institute has stated that mycotoxins known as "Aflatoxins in dry state are very stable to heat up to the melting point." The melting point for Aflatoxins range from 237 degrees to 299 degrees. Finally, according to the Queensland Government Department of Primaries Industries and Fisheries, "Heating is not a satisfactory method for detoxifying fungal mycotoxins..."

Heat appears to be a useful tool for some applications and not others. As with any tool, it is important to learn what it can and cannot accomplish. This is obviously important to protect your company against liability and to be sure the services you offer are effective. *If you liked this article, circle 104 on the Reader Inquiry Card.* **ICS**

As published in
Claims
MAY 2006
Volume 54, Number 5

BILLIONS AT STAKE!

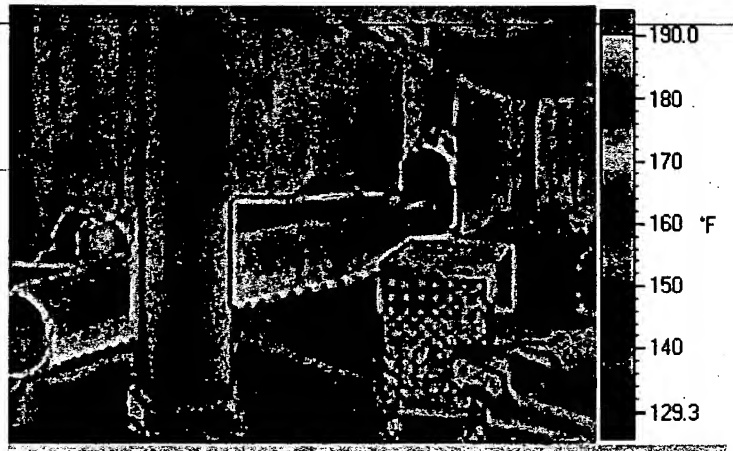
# Heat Treatment Method Provides Water Damage/Mold Relief

**Escalating water damage and mold liability could cost insurers and property owners**

By Alan Forbess

For insurers facing extraordinary exposure from Hurricanes Katrina and Rita, the bad news continues. Serious mold contamination is now threatening water-damaged homes and commercial properties throughout the region. With losses estimated to rise beyond $90 billion in flooded New Orleans and the Gulf Coast, the more than 15,000 adjusters dispatched aren't nearly enough to handle the region's estimated two million claims. Hurricane Wilma and recent flooding in the Northeast are only compounding the problem, for where there's flooding that is not addressed immediately, mold growth and resulting claims will surely follow. Moreover, the hurricanes may just be the start of painful times for insurers and property owners if the disruptive weather patterns predicted for the rest of the century by Purdue University researchers prove correct.

With all this bad news piling up, the insurance and real estate industries could use some good news for a change. A revolutionary new heat treatment process established in California is looking like it could be the silver lining to a very cloudy period, providing an alternative methodology which could save the insurance and real estate industries billions of dollars. ThermaPureHeat may be a big part of the solution. ThermaPureHeat has proven to be an effective alternative to traditional demolition-based remediation and building dry-out methods, potentially saving US insurers billions of dollars over the next several years.




Heat has shown to be effective in destroying active mold growth sites, and kills viable mold spores, bacteria, viruses, insects, and other heat-sensitive pests and organisms.

The process, developed by E-Therm, an environmental remediation innovator based in Ventura, Calif., uses superheated, dehumidified air to disinfect, decontaminate, and dry out buildings in much the same way heat is used to pasteurize milk and kill bacteria in wine.

In the ThermaPureHeat process, technicians use propane-powered portable heaters and air blowers to inject superheated air into the affected space, raising the temperature of a single room or entire structure to as much as 160 degrees Fahrenheit for several hours. Heat has shown to be effective in destroying active mold growth sites, and kills viable mold spores, bacteria, viruses, insects, and other heat-sensitive pests and organisms. Heat also accelerates the off-gassing of odors and toxins, even in inaccessible areas, without the use of chemicals. One of the main benefits of heat is that the proper application can dry out wet buildings much quicker than the traditional method of simple air movement and dehumidification typically used by flood restoration contractors.

Whether applied to aid in disaster recovery or in addressing

more routine water intrusion problems, insurers and property owners are finding that heat offers an effective alternative or adjunct to costly traditional demolition-based mold remediation and flood restoration.

Used in conjunction with limited "remove and replace" remediation or as an alternative to it in some instances, the heat treatment process could minimize liability and increase clearance testing success rates. Heat also allows the contractor to treat many building materials in place, avoiding the cost and expense of unnecessary removal of walls, flooring, cabinetry and furnishings.

## Drawbacks of Traditional Mold Remediation

Traditional mold remediation typically includes limited or extensive demolition of impacted building materials, and extensive cleaning using techniques such as wire brushing, sanding, HEPA vacuuming and microbial wipe down. This has been the standard mold remedy, which is costly and time consuming. As with all response actions, the more extensive the tear down the higher the build back costs.

"Cost escalates when suspected mold requires the tear down and build back of structures that may be salvageable," says Joe McLean, CEO of Alliance, a Calif.-based environmental contractor that deals extensively in mold and asbestos remediation. "For instance, if a consultant specifies removal of a 4-foot perimeter on four walls because moisture has wicked up one, the tear down and build back of showers, cabinets, countertops and such can significantly increase costs."

Because insurers often cover building structures, their contents, as well as loss of use, long remediation projects that vacate the occupants for weeks or months can also rack up high secondary costs. The cost for replacement housing, meals - or more significantly, the cost of insuring lost business - can, in fact, sometimes exceed remediation costs.

Inaccessible areas such as wall cavities, crawlspaces, headers, doorjambs, and vapor barriers present another dilemma. Either spend prohibitively to reach, remove, and replace building structures in these inaccessible areas - or leave them with potential live mold or mold spores which could pose a re-infestation hazard.

Removal and replacement of mold-affected areas can also be complicated by other factors - such as when building structures like studs or floor joists are structurally necessary, or when historical features such as frescos, carved wood, or decorative plasters prove difficult or prohibitively expensive to replace.

## Reining in Mold Liability

Some in the industrial hygiene community feel that the sky-high cost of mold liability can be brought back down to earth by refocusing on the basics.

"Mold remediation today is stuck in the mindset of early asbestos remediators who believed that everything had to be ripped out regardless of the cost," says Michael Geyer, P.E., C.I.H., C.S.P., who's President of Kerntec Industries, a Calif.-based environmental consulting firm. "Remediators later learned that asbestos could be more effectively managed in place at lower cost in many instances; the same is true of mold today."

According to Geyer, the industrial hygiene community has been focusing on the symptom - mold - while failing to properly address the cause - moisture.

"If physical removal is the only acceptable remediation method, you may as well demolish the building," says Geyer. "Because you can't simply scrub mold off the surface when its roots grow into the substrate." Geyer explains that mold, as a fungus, is a plant without chlorophyll whose roots grow into the substrate of building materials and whose spores are like the seed-bearing fruit of a tree.

"To properly handle mold, you have to handle the moisture problem," adds Geyer. "Applying heat through a process like ThermaPure's is not only lethal to mold and other biohazards like bacteria and insects, but it also dries out the substrate, structure, and architectural elements. This helps prevent future recurrences since the substrate is no longer hospitable to growth."

"Mold in a wall cavity doesn't necessarily need to be removed as long as it's effectively killed and not part of the occupied space," says Geyer. "In instances of mild to moderate water intrusion of short duration, substrate removal is usually unnecessary and unwarranted except when visibly

ThermaPureHeat also accelerates the off-gassing of odors and toxins, even in inaccessible areas.

contaminated or when architectural elements are compromised. That's where heat treatments like ThermaPure can be effective for managing mold in place. It penetrates cracks, crevices, and typically inaccessible areas like wall cavities at a fraction of the cost of removal and replacement."

## Don't Demolish the Bottom Line

When a water loss incident with detectable but no visible mold affected office space at a Juvenile Hall in a Monterey County, Calif., gross removal including the impacted wall cavity was estimated at $20,000. Instead, the County opted to manage the mold in place using the ThermaPure process. The impacted area was heated to 160 degrees Fahrenheit while maintaining 145 degrees Fahrenheit in wall cavities and other inaccessible spaces in excess of two hours. Mold remediation protocol including critical barriers, negative air containment, and HEPA vacuuming were implemented as well.

Afterward, post remediation viable samples analyzed by Hygeia Labs of Pasadena, CA revealed no viable mold/fungi detected within the impacted wall cavity. Costly gross remediation was avoided and inaccessible areas received additional drying. The savings to the County using ThermaPure in lieu of gross remediation was $17,000.

Because ThermaPure treating a structure generally takes less than eight hours, no multiple day move outs are required. This minimizes business disruption and loss as well as any secondary costs such as for housing or meals.

## A Case Study

Recently, a large investment group purchased a student housing complex at a major Southern California university. During the due diligence period, building inspections revealed water damage or elevated moisture levels in 109 of 122 residential units, along with an extensive termite problem. Complications included an accelerated restoration schedule, budget constraints, and a summer occupancy schedule which was already booked.

The consultant recommended the ThermaPureHeat process to restrict demolition to only those areas where physical damage or visible mold growth was present. Of the 109 units needing remediation, only 10 units required extensive demolition, including cabinetry or shower stall removal. ThermaPure effectively killed the mold in inaccessible areas, allowing minimal removal and replacement as part of site remediation.

This significantly cut required restoration time and costs. All units were HEPA cleaned and sampled as part of traditional post remediation testing, with all 122 units passing. By working in selected buildings and moving quickly through the complex, the university was able to house specialty groups and camps throughout the summer, meeting its stated obligations and generating revenue without interruption.

Total savings were estimated at $4 million using ThermaPure compared to traditional remove and replace remediation, which would have closed the facilities to summer use and required extensive tear down and rebuild expenditure. The heat treatment simultaneously eradicated the termite infestation.

"Heat treatments like ThermaPure's are a win-win for the insurance company and property owner," says Michael Geyer, P.E., C.I.H., C.S.P. "Heat is even being used to achieve final clearance on tough traditional remediation projects where typical methods often fail. It can be used to salvage moisture-damaged contents instead of disposal and can help preserve historical properties in lieu of destructive removal."

PDG Environmental, a national environmental remediation contractor, used the ThermaPure process in New Orleans after recent hurricane activity. "We used it to polish off any mold or bacteria left after traditional remediation on a commercial site that was flooded with sewage-contaminated water," said John Regan, Chairman and CEO of PDG Environmental. "It dried out the building extremely quickly and helped us meet clearance levels."

Geyer adds, "Had the heat treatment been widely used in New Orleans and other hurricane ravaged areas, buildings with minor to moderate water damage could have been rapidly rehabilitated for far less than typical remove and replace remediation."

Since ThermaPure can raise temperatures in targeted areas or entire structures to levels lethal to biological pests, it has been successfully used against mold and fungi, bacteria and viruses, insect infestations, and to improve indoor air quality by accelerating the off-gassing of odors and toxins.

Alan Forbess is President of Criterion Environmental, a full-service environmental consulting firm based in Ventura, California. He is a Registered Environmental Assessor in the State of California and a Certified Microbial Consultant with the American Indoor Air Quality Council. He has provided expert witness testimony in several legal cases and managed over 1,000 mold assessments for commercial, residential and educational properties. For more info, visit www.thermapure.com; call 805-641-9333; fax 805-648-6999; email info@thermapure.com; or write to E-Therm, Inc. at 180 Canada Larga Road, Ventura, CA 93001.